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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/747,955

12/27/2000

Tadayoshi Iijima

OKA-0020

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04/15/2009

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EXAMINER

JACKSON, MONIQUE R

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/15/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/747,955	Applicant(s) IIJIMA, TADAYOSHI	
	Examiner Monique R. Jackson	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/3/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the appeal brief filed on 12/29/08, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "not less than an ordinary temperature" in claims 1, 17, 24, and 29 is a relative term which renders the claim indefinite.

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The term "an ordinary temperature" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner notes that the only place that recites "ordinary temperature" is with respect to the roll temperature wherein a parenthetical expression is recited after the term and states "an environment suitable for human work".

However, the Examiner notes that the term "suitable for human work" is also a relative term given that an environment suitable for one human may be considered unsuitable for another, or an unsuitable environment may be suitable given the correct protective clothing, e.g. on the outside of a spacecraft in orbit. Therefore, the Examiner takes the position that the specification does not define the term "not less than an ordinary temperature" in a manner that one having ordinary skill in the art would be reasonably apprised of the scope of the claimed invention and hence one having ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement.

Claim Rejections - 35 USC § 102/103

4. Claims 1-3, 17-18, 21-22, 24-26, 28-30 and 33-34 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakamura et al (USPN 6,383,559) for the reasons recited in the prior office action and restated below.

5. Nakamura et al teach an anti-reflection film and display device comprising a layer of fine particles or microparticles arranged or packed closely to one another forming a layer on the surface of a support, generally a transparent support or film such as cellulose derivatives, polyesters like polyethylene terephthalate, polycarbonates, polyolefins like polyethylene or polypropylene, and polymethyl methacrylate (*acrylic film*); wherein triactyl cellulose,

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polycarbonate and polyethylene terephthalate are preferred (Abstract; Col. 12, lines 27-58; Col. 13, lines 38-55; Figure 1.) Nakamura et al teach that the microparticles have a mean particle size of 5 to 200nm, preferably 5 to 50nm, and can be made of fluoro-resin or an inorganic substance such as metal fluorides or metal oxides wherein the metal atom may be tin, indium, zinc, cadmium, antimony, aluminum, and other metals as listed at Col. 8, lines 40-46, as well as inorganic particles containing two or more metal atoms (*reads upon claimed metal oxides as well as “conductive” fine particles*; Col. 5, lines 43-44; Col. 8, lines 39-47.) Nakamura et al also teach that the fine particles are used in the form of a dispersion which is applied to the substrate and then dried and that the layer further comprises from 5 to 25wt% of a transparent binder to fill a portion of the micro voids between the particles (*reads upon “impregnated with a transparent substance” as in Claims 21 and 33*; Col. 12, lines 27-Col. 13, line 4.) Nakamura et al teach that the particle dispersion liquid can include the fine particles and polymerizable monomers that may be reacted after coating the solution to produce the binder resin (*hence reads upon “no binder resin” as recited in Claim 24 given that the “resin” itself is not present in the coating liquid and the claimed invention does not exclude subsequent formation or impregnation of a binder resin*; Col. 13, lines 13-31.) With respect to the claimed “compression force” and “temperature below a glass transition temperature”, though Nakamura et al do not specifically teach these process limitations, the Examiner takes the position that these limitations are product-by-process limitations wherein the invention taught by Nakamura et al appears to provide the same structure as the claimed invention. Given that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps, and given that the steps do not clearly imply any difference in structure based on the discussion in paragraph 3 of

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the office action dated 5/2/07, the Examiner takes the position that invention taught by Nakamura et al anticipates the claimed functional film. Alternatively, the Examiner notes that if the structure of the film taught by Nakamura et al is not inherently the same as the instantly claimed film, it would have been obvious to one having ordinary skill in the art at the time of the invention to recognize that temperature and pressure can work together to achieve a desired outcome or compression of the particle layer on and/or into the support wherein one could lower the temperature but increase the pressure to obtain the same desired structure, noting that the level of compression is a known result effective variable affecting the mechanical properties of the final end product.

6. Claims 1-3, 17-18, 22, 24-26, 28-30, and 34 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 00/72373 A1 (WO'373.) WO'373 teaches a method of manufacturing a nanostructured thin film electrode comprising the steps of preparing a suspension of semi-conducting nanometer-sized particles in a volatile suspending agent, depositing the particle suspension on a conducting substrate, removing the suspending agent by evaporation, and compressing the deposited particles (Abstract.) WO'373 teaches that the particles may be metal oxides as recited at Page 6, lines 5-9, including zinc oxide, and have a particle size within the range of up to 1000nm, preferably 10-100nm (Page 6, lines 5-15.) WO'373 teaches that the conducting substrate may be a glass or plastic sheet coated with a conducting material wherein examples include a coated PET sheet (Page 6, line 32-Page 7, line 7; Examples; Note: both suitable commercial plastic substrates disclosed comprise PET.) WO'373 teaches that the compression can be performed at ambient conditions (*reads upon claimed temperature range*) with sufficient pressure to provide sufficient contact between adjacent particles within the film as

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well as between particles and the conducting layer and may be applied using a steel pressure plate or roller mill (Page 7, line 33-Page 9, line 24.) WO'373 teaches example pressures ranging from 100-1000kg/cm², with the optimal properties obtained for a pressure of approximately 500 kg/cm² (Examples; hence about 9.8-98 N/mm², with optimal at 49N/mm².) WO'373 further teaches that when using sufficiently small particles of less than 1000nm, no binder is necessary in addition to the compression to achieve a sufficiently strong mechanical adherence between the particles, and between the particles and the conducting layer (Page 8, lines 11-15.)

7. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Response to Arguments

8. Applicant's arguments filed 12/29/08 have been fully considered but they are not persuasive with respect to the rejection under 35 U.S.C. 112, 2nd paragraph. As discussed in further detail above, the Examiner notes that the term "not less than an ordinary temperature" is a relative term that has not been defined by the specification in a manner that one having ordinary skill in the art would be reasonably apprised of the scope of the claimed invention. The Applicant argues that the specification clearly defines the term as being at a temperature "suitable for human work". However, the Examiner notes that the term "suitable for human work" is also a relative term given that an environment "suitable" for one human may be considered unsuitable for another, or an unsuitable environment may be suitable given the correct protective clothing, e.g. on the outside of a spacecraft in orbit. Therefore, the Examiner maintains her position that the specification does not define the term "not less than an ordinary

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temperature” in a manner one having ordinary skill in the art would be reasonably apprised of the scope of the claimed invention and hence one having ordinary skill in the art could not interpret the metes and bounds of the claim so as to understand how to avoid infringement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/
Primary Examiner, Art Unit 1794
April 13, 2009

/Rena L. Dye/
Supervisory Patent Examiner, Art Unit 1794